## REMARKS

This is in full and timely response to the Office Action mailed on May 9, 2011.

Support for the claims may be found variously throughout the specification. *No new matter has been added.*

Reexamination in light of the following remarks is respectfully requested.

### *Entry of amendment*

This amendment prima facie places the case in condition for ***allowance***. Alternatively, it places this case in better condition for ***appeal***.

Accordingly, entry of this amendment is respectfully requested.

### *Prematureness*

Applicant, seeking review of the *prematureness* of the final rejection within the Final Office Action, respectfully requests reconsideration of the finality of the Office action for the reasons set forth hereinbelow. See M.P.E.P. §706.07(c).

### *New non-final Office Action*

At least for the following reasons, if the allowance of the claims is not forthcoming at the very least and a new ground of rejection made, then a ***new non-final Office Action*** is respectfully requested.

***Obviousness-type double patenting rejection***

**i. Paragraph 4 of the Office Action indicates a rejection of claim 24 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 7,116,365.**

**A. Factual inquiry required in an obviousness-type double patenting rejection.**

The inquiry required in an obviousness-type double patenting rejection parallels the inquiry for a proper rejection 35 U.S.C. §103.

Pursuant to M.P.E.P. §804(II)(B)(1), this inquiry is summarized as follows:

**(A)** Determine the scope and content of a patent claim relative to a claim in the application at issue;

**(B)** Determine the differences between the scope and content of the patent claim as determined in item (A) and the claim in the application at issue;

**(C)** Determine the level of ordinary skill in the pertinent art; and

**(D)** Evaluate any objective indicia of nonobviousness.

Furthermore, U.S. patent practice and procedures set forth within M.P.E.P. §804(II)(B)(1) dictate that any obviousness-type double patenting rejection should make clear:

**(A)** The differences between the inventions defined by the conflicting claims - a claim in the patent compared to a claim in the application; and

**(B)** The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim at issue >is anticipated by, or< would have been an obvious variation of >,< the invention defined in a claim in the patent.

Upon review, the obviousness-type double patenting rejection within the Office Action ***fails to provide a comparison*** of the claims in U.S. Patent No. 7,116,365 to claims in the application.

Upon review, the obviousness-type double patenting rejection within the Office Action ***fails to make clear the differences*** between the claims in U.S. Patent No. 7,116,365 and claims in the application.

Upon review, the obviousness-type double patenting rejection within the Office Action ***fails to make clear the reasons*** why a person of ordinary skill in the art would conclude that the invention defined in the claims in the application would have been an obvious variation of the claims in U.S. Patent No. 7,116,365.

Accordingly, the above-identified factual determinations are ***absent*** from within the Office Action, and that the obviousness-type double patenting rejection made within the Office Action is ***incomplete and improper*** as a result.

**B. The present application is a *divisional* of U.S. Patent No. 7,116,365.**

U.S. Patent and Trademark Office practice and procedures dictate that the third sentence of 35 U.S.C. 121 ***prohibits*** the use of a patent issuing on an application with respect to which a requirement for restriction has been made, or on an application filed as a result of such a requirement, as a reference against any divisional application, ***if the divisional application is filed before the issuance of the patent***. (M.P.E.P. §804.01).

Here, a requirement for restriction is found within Application No. 09/327,523 (***the '523 application***), which is *the parent application for the present application.*

Specifically, the Office Communication of March 24, 2003 in the '523 application asserts the presence of a restriction requirement of the following Groups:

- Species one (Figs. 1-9); and
- Species two (Figs. 10-16C).

***An election of Species one (Figs. 1-9) is found in the paper within the '523 application filed on April 30, 2003.***

As noted hereinabove, the '523 application has made a requirement for restriction.

Since the ***present application is a divisional application*** of the '523 application, the ***double patenting rejection*** found within the Office Action ***should be withdrawn*** as a result.

**ii. Paragraph 5 of the Office Action indicates a rejection of claim 26 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 33 of Application No. 10/945,519 and U.S. Patent No. 4,168,444 (van Santen).**

**A. Factual inquiry required in an obviousness-type double patenting rejection.**

The inquiry required in an obviousness-type double patenting rejection parallels the inquiry for a proper rejection 35 U.S.C. §103.

Pursuant to M.P.E.P. §804(II)(B)(1), this inquiry is summarized as follows:

> (A) Determine the scope and content of a patent claim relative to a claim in the application at issue;

**(B)** Determine the differences between the scope and content of the patent claim as determined in item (A) and the claim in the application at issue;

**(C)** Determine the level of ordinary skill in the pertinent art; and

**(D)** Evaluate any objective indicia of nonobviousness.

Furthermore, U.S. patent practice and procedures set forth within M.P.E.P. §804(II)(B)(1) dictate that any obviousness-type double patenting rejection should make clear:

**(A)** The differences between the inventions defined by the conflicting claims - a claim in the patent compared to a claim in the application; and

**(B)** The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim at issue >is anticipated by, or< would have been an obvious variation of >,< the invention defined in a claim in the patent.

Upon review, the obviousness-type double patenting rejection within the Office Action ***fails to provide a comparison*** of the claims in Application No. 10/945,519 to claims in the application.

Upon review, the obviousness-type double patenting rejection within the Office Action ***fails to make clear the differences*** between the claims in Application No. 10/945,519 and claims in the application.

Upon review, the obviousness-type double patenting rejection within the Office Action ***fails to make clear the reasons*** why a person of ordinary skill in the art would conclude that the invention defined in the claims in the application would have been an obvious variation of the claims in Application No. 10/945,519.

Accordingly, the above-identified factual determinations are ***absent*** from within the Office Action, and that the obviousness-type double patenting rejection made within the Office Action is ***incomplete and improper*** as a result.

**B. The Application No. 10/945,519 is a *continuation* of U.S. Patent No. 7,116,365.**

A continuation is a second application for the ***same invention claimed in a prior nonprovisional application*** and filed before the original prior application becomes abandoned or patented. M.P.E.P. §201.07.

Application No. 09/327,523 has matured into U.S. Patent No. 7,116,365.

Here, Application No. 10/945,519 is a ***continuation application*** of Application No. 09/327,523.

U.S. Patent and Trademark Office practice and procedures dictate that the third sentence of 35 U.S.C. 121 ***prohibits*** the use of a patent issuing on an application with respect to which a requirement for restriction has been made, or on an application filed as a result of such a requirement, as a reference against any divisional application, ***if the divisional application is filed before the issuance of the patent***. (M.P.E.P. §804.01).

Being that M.P.E.P. §804.01 would have prohibited a restriction requirement between the claims in U.S. Patent No. 7,116,365 and the claims in the present application, M.P.E.P. §804.01 would also have ***prohibited*** the requirement for restriction between the claims in Application No. 10/945,519 and the claims in the present application.

Since the ***present application is a divisional application*** of the '523 application, the ***double patenting rejection*** found within the Office Action ***should be withdrawn*** as a result.

## *Claim rejections*

**i. Paragraph 7 of the Office Action indicates a rejection of claim 17 under 35 U.S.C. 103 as allegedly being unpatentable over U.S. Patent No. 5,898,168 (Gowda) in view of U.S. Patent No. 6,674,470 (Tanaka) and in further view of U.S. Patent No. 5,187,583 (Hamasaki).**

Claim 17 is drawn to a solid state imaging element, comprising:

> a plurality of pixels arranged in a matrix, each of which has a photoelectric conversion element, a transfer switch for transferring charge stored in said photoelectric conversion element, a charge store part for storing charge transferred by said transfer switch, a reset switch for resetting said charge store part, and an amplifying element for outputting a signal in accordance with a potential of said charge stored in said charge store part;
>
> wherein a threshold voltage of said amplifying element is reduced in relation to remaining transistors of each pixel. and further wherein a diffusion region that is connected to a power source is laid out to be physically adjacent to the photoelectric conversion element in order to provide an overflow path,
>
> wherein said transfer switch is an enhancement type transistor.

**A. U.S. Patent No. 5,898,168 (Gowda) *fails* to disclose, teach or suggest a transfer switch being an enhancement type transistor.**

Gowda arguably discloses that the pixel circuit of cell 30 eliminates the separate row selection transistor by employing ***FET 22*** to perform both a charge transfer function and a pixel selection function (Gowda at column 4, lines 21-23).

However, Gowda ***fails*** to specify FET 22 being either an enhancement type transistor or a depletion type transistor.

Page 6 of the Office Action refers to Figure 3B and column 4, lines 9-16, of Gowda for the disclosure of an enhancement type transistor in Gowda.

Here, a review of Figure 3B and column 4, lines 9-16, of Gowda reveals an ***absence*** of FET 22 being described as an enhancement type transistor.

*Thus, Gowda **fails** to disclose, teach or suggest FET 22 being an enhancement type transistor.*

**B. U.S. Patent No. 6,674,470 (Tanaka) *fails* to disclose, teach or suggest a transfer switch being an enhancement type transistor.**

Tanaka arguably discloses that as shown in FIG. 7, the unit cell of the MOS-type solid state imaging device according to the first embodiment comprises two photodiodes 92a and 92b adjacent in the vertical direction; two ***read-out transistors 93a and 93b*** for selecting detection signals from the photodiodes 92a and 92b as the output from the unit cell; and an output circuit 98 for outputting, from the unit cell, the output signal selected by the ***read-out transistors 93a and 93b*** (Tanaka at column 7, lines 37-47).

However, Tanaka ***fails*** to specify transistors 93a and 93b being either an enhancement type transistor or a depletion type transistor.

*Thus,* Tanaka ***fails*** *to disclose, teach or suggest transistors 93a and 93b being an enhancement type transistor.*

**C. U.S. Patent No. 5,187,583 (Hamasaki) *fails* to disclose, teach or suggest a transfer switch being an enhancement type transistor.**

Hamasaki is ***silent*** as to the presence of a transfer switch.

But if a transfer switch is disclosed within Hamasaki, that reference ***fails*** to specify a transfer switch being either an enhancement type transistor or a depletion type transistor.

*Thus,* Hamasaki ***fails*** *to disclose, teach or suggest a transfer switch being an enhancement type transistor.*

**ii. Paragraph 8 of the Office Action indicates a rejection of claims 24-25 and 27-33 under 35 U.S.C. 103 as allegedly being unpatentable over U.S. Patent No. 5,898,168 (Gowda) in view of U.S. Patent No. 5,187,583 (Hamasaki) and further in view of U.S. Patent No. 4,168,444 (van Santen).**

**A. Claim 31.**

While not conceding the propriety of this rejection and in order to advance the prosecution of the instant application, this Amendment includes the cancellation of claim 31.

**B. Claims 24-25, 27-30 and 32-33.**

Claims 25, 27-30 and 32-33 are dependent upon claim 24. Claim 24 is drawn to a solid state imaging element comprising:

> a transfer switch having a source being a floating diffusion and a drain being a photodiode;
>
> a reset switch having a source being said floating diffusion and a drain being electrically connected to a vertical selection line, said reset switch being a depression type transistor.

**1. U.S. Patent No. 5,898,168 (Gowda) *fails* to disclose, teach, or suggest a depression type transistor having a source being the floating diffusion and a drain being electrically connected to a vertical selection line.**

Page 7 of the Office Action ***readily admits*** that Gowda ***fails*** to disclose, teach, or suggest a reset switch being a depression type transistor.

Thus, Gowda ***fails*** to disclose, teach, or suggest a depression type transistor having a source being the floating diffusion and a drain being electrically connected to a vertical selection line.

**2. U.S. Patent No. 5,187,583 (Hamasaki) *fails* to disclose, teach, or suggest a depression type transistor having a source being the floating diffusion and a drain being electrically connected to a vertical selection line.**

Page 7 of the Office Action ***readily admits*** that Hamasaki ***fails*** to disclose, teach, or suggest a reset switch being a depression type transistor.

Thus, Hamasaki ***fails*** to disclose, teach, or suggest a depression type transistor having a source being the floating diffusion and a drain being electrically connected to a vertical selection line.

**3. U.S. Patent No. 4,168,444 (van Santen) *fails* to disclose, teach, or suggest a depression type transistor having a source being the floating diffusion and a drain being electrically connected to a vertical selection line.**

Page 7 of the Office Action refers to transistor 91 of van Santen as the alleged depression type transistor.

Figures 1 and 3 and redacted portion of Figure 5 from van Santen are hereinbelow.

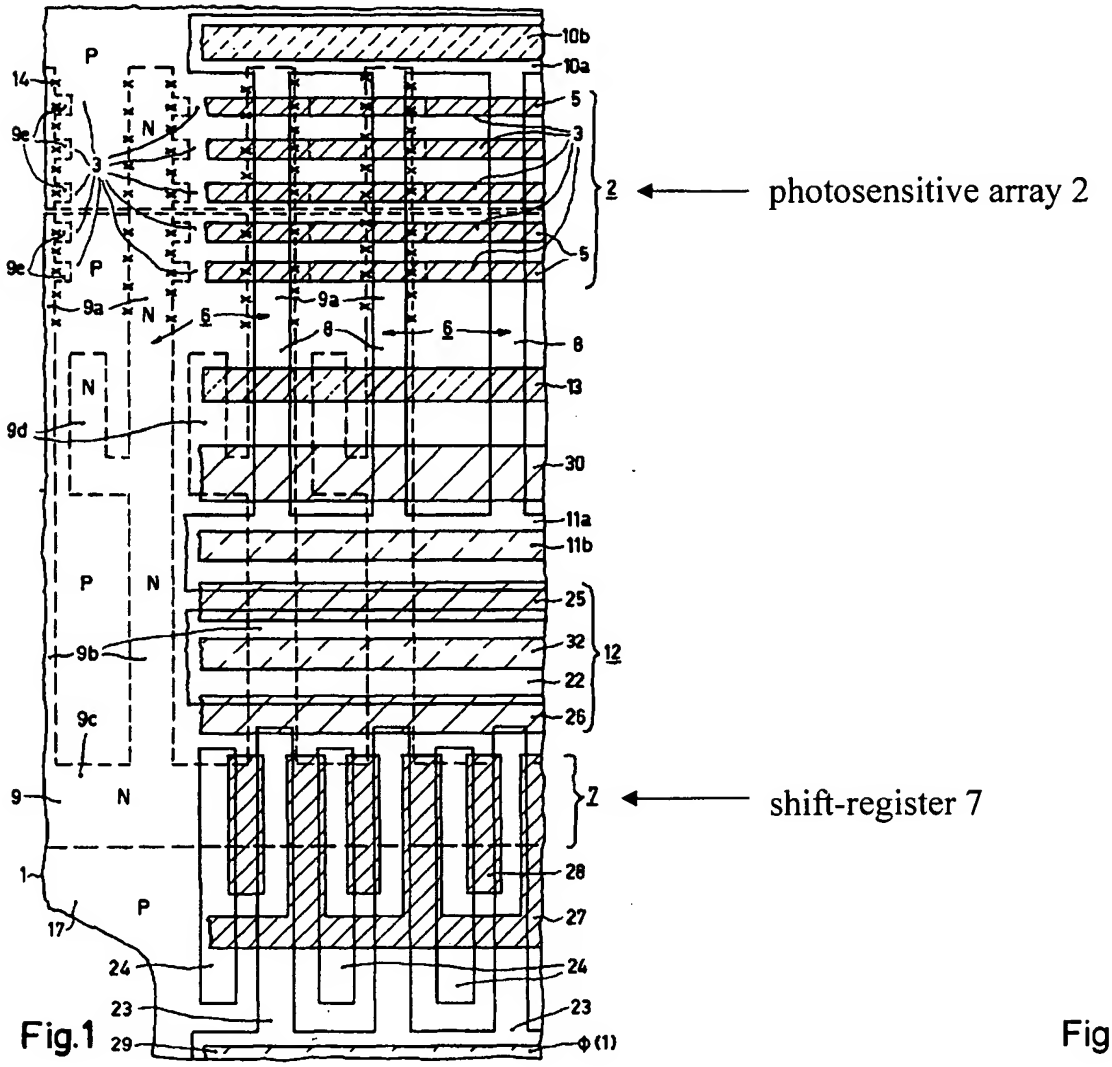



Fig.1

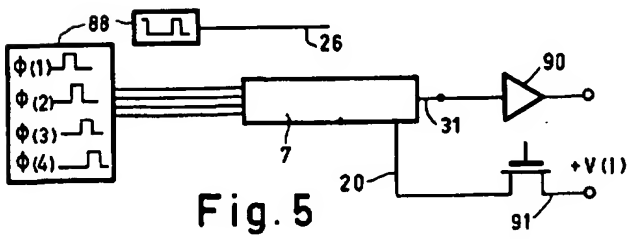
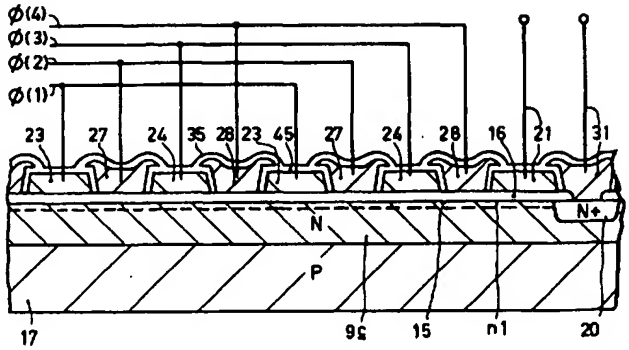



Fig. 5

Fig. 3



Determining obviousness requires considering whether two or more pieces of prior art could be combined, or a single piece of prior art could be modified, to produce the claimed invention. *Comaper Corp. v. Antec Inc.*, 93 USPQ2d 1873, 1879 (Fed. Cir. 2010).

Here, column 7, line 66, to column 8, line 4, of van Santen arguably discloses that the electrode 31 and zone 20 may also form the source of an ***n-channel deep-depletion insulated-gate field-effect transistor 91*** which acts as a ***reset switch*** for draining away an information-representative charge-packet after sensing and so resets the initial positive potential, +V(I), of the sensing electrode 31 and zone 30.

The gate of such a ***reset transistors 91*** may be formed by, for example, an adjacent portion of the first-level electrode pattern (van Santen at column 8, lines 10-12).

Nevertheless, there is a cooperative relationship between the various elements in the claims. *Illinois Tool Works, Inc. v. Continental Can Company, Inc.*, 154 USPQ 401, 420-21 (N.D. Ill. 1967).

**a) Within claim 24, the source region of the depression type transistor is a floating diffusion region.**

At best, an ***output zone 20 of register 7*** is depicted within Figure 3 of van Santen.

Here, van Santen ***fails*** to disclose, teach, or suggest the output zone 20 of the shift-register 7 being a region similar to the reference circuit node 25 of Gowda (Gowda at Figure 3B).

Instead, van Santen at column 8, lines 14-21 discloses that the p-type body portion 17 can be connected to earth potential (zero volts); fixed comparatively high positive potentials V(D) and V(I) respectively can be applied to the anti-blooming drain portion 9d of n-type region 9 via the

connection 13 and to the ***shift-register*** $n^+$ output zone 20 via *the reset field-effect transistor switch 91 of which **zone 20 forms the source zone***.

Whereas Figure 1 of van Santen depicts the presence of a shift-register 7 and an array 2 of photosensitive elements 3, Figure 1 of van Santen ***fails*** to depict the shift-register 7 being adjacent a photosensitive element 3.

Likewise, the Office Action ***has not identified any disclosure*** in van Santen sufficient to show the output zone 20 of the shift-register 7 of van Santen being a floating diffusion region of a photosensitive element 3. See *Ex parte Darolia*, Appeal No. 2009-005819, pgs. 7-8, (BPAI, June, 2010)(*Examiner's rejection **reversed**: Examiner has not directed Board to any disclosure within the reference*).

As a consequence, the combination of Gowda and van Santen ***fails to establish a nexus*** between a depression type transistor and a floating diffusion region. See *In re Jansson*, 203 USPQ 976, 978 (C.C.P.A. 1979)(*Examiner's rejection **reversed**: attempted nexus is not readily apparent*).

As a consequence, van Santen ***fails*** to disclose a source region of the depression type transistor being a floating diffusion region.

**b) Within claim 24, the drain region of the depression type transistor is electrically connected to a vertical selection line.**

van Santen ***fails*** to disclose, teach, or suggest the drain region of transistor 91 being electrically connected to electrodes 5 of Figure 5.

Instead, van Santen at column 8, lines 14-21 discloses that the p-type body portion 17 can be connected to earth potential (zero volts); fixed comparatively high positive potentials V(D) and V(I) respectively can be applied to the anti-blooming drain portion 9d of n-type region 9 via the connection 13 and to the ***shift-register*** $n^+$ output zone 20 via *the reset field-effect transistor switch 91 of which **zone 20 forms the source zone***.

Likewise, the Office Action ***has not identified any disclosure*** in van Santen sufficient to show how and why the skilled artisan would have considered the drain region of transistor 91 of van Santen and a row select (RSL) of Gowda to have been one in the same. See *Ex parte Darolia*, Appeal No. 2009-005819, pgs. 7-8, (BPAI, June, 2010)(*Examiner's rejection* ***reversed****: Examiner has not directed Board to any disclosure within the reference*).

As a consequence, the combination of Gowda and van Santen ***fails to establish a nexus*** between a drain region of a depression type transistor and a vertical selection line. See *In re Jansson*, 203 USPQ 976, 978 (C.C.P.A. 1979)(*Examiner's rejection* ***reversed****: attempted nexus is not readily apparent*).

As a consequence, van Santen ***fails*** to disclose a drain region of the depression type transistor being electrically connected to a vertical selection line.

**4. Combination of Gowda, van Santen, and Hamasaki.**

*Prima facie* obviousness of a claimed invention is established "only by showing some ***objective teaching in the prior art*** or that ***knowledge*** generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

In this regard, the Office Action ***fails*** to show that "*general conditions*" would have been ***known*** to the skilled artisan. See *In re Yates*, 211 USPQ 1149 (C.C.P.A. 1981). See also *In re Orfeo and Murphy*, 169 USPQ 487 (C.C.P.A. 1971).

In particular, the combination of Gowda, van Santen, and Hamasaki ***fails*** to disclose, teach, or suggest a depression type transistor having a source being the floating diffusion and a drain being electrically connected to a vertical selection line.

Obviousness cannot be predicated on what is ***unknown***. *In re Spormann*, 150 USPQ 449, 452 (CCPA 1966).

One cannot choose from the ***unknown***. *In re Ochiai*, 37 USPQ2d 1127, 1131 (Fed. Cir. 1995).

This ***absence of all claimed features*** in the combination of the references proposed in the Office Action would have been ***apparent*** to the skilled artisan especially when the combination of references would have required a substantial reconstruction and redesign of the elements shown in Gowda, van Santen, and Hamasaki, as well as a change in the basic principles under which Gowda, van Santen, and Hamasaki were designed to operate. *In re Ratti*, 123 USPQ 349, 352 (CCPA 1959).

But even if there exists the mere possibility that the features of Gowda, and Hamasaki could be so modified or replaced with the features from van Santen, as contended within the Office Action, it has been a long standing rule that such modification or replacement ***would not*** make the claimed invention obvious *unless the prior art suggested the desirability of such a modification or replacement*. *In re Brouwer*, 37 USPQ2d 1663, 1666 (Fed. Cir. 1995).

There must be a reason apparent at the time the invention was made to the person of ordinary skill in the art for applying the teaching at hand, or the use of the teaching as evidence of obviousness will entail prohibited hindsight. *In re Nomiya, Kohisa, and Matsumura*, 184 USPQ 607, 613 (C.C.P.A. 1975).

Such a ***hindsight analysis is not allowed*** by 35 U.S.C. 103 which requires a comparison of the prior art and the invention as a whole at the time the invention was made. *In re Linnert and Espy*, 135 USPQ 307, 311 (C.C.P.A. 1962).

Here, the specification for the claims provide the following in the paragraph beginning at page 21, line 8.

> In this example, N-channel enhancement type transistor, ***N-channel depression type transistor***, N-channel enhancement type transistor, and N-channel enhancement type transistor are used as transfer switch 42, ***reset switch 44***, amplifying transistor 45, and transfer selection switch 46, respectively. However, all or part of these transistors can also be replaced by P-channel transistors to constitute the circuit.

In the absence of any disclosure within Gowda, van Santen, or Hamasaki, or any other objective supporting evidence, the line of reasoning within the Examiner's Answer appears to have been merely ***an extraction from the Appellant's own specification***.

Under similar circumstances, Judge Frankfort of the Board of Patent Appeals and Interferences provides guidance in *Ex parte Haymond*, 41 USPQ2d 1217, 1220 (Bd. Pat. App. & Int. 1996), as follows:

> [ 3 ] In this regard, we note that it is ***impermissible*** to use the claimed invention as an instruction manual or "template" to piece together isolated disclosures and teachings of the prior art so that the claimed invention may be rendered obvious. We additionally note that a rejection based on Section 103 must rest on a factual basis, with the facts being interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, the examiner has the initial duty of supplying the factual basis for the rejection he advances. He *may not*, because he doubts that the invention is patentable, resort to ***speculation***, ***unfounded assumptions*** or ***hindsight reconstruction*** to supply deficiencies in the factual basis. See *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). Since we perceive ***no factual basis*** *in the prior art relied upon which supports the proposed combination* thereof, and have thus determined that the examiner's conclusion of obviousness is based on *hindsight reconstruction* of the claimed invention from isolated disparate teachings in the prior art, ***we will not sustain*** the examiner's rejection of appealed claims 1, 3 and 4 under 35 U.S.C. Section 103.

But instead of providing any objective evidence for showing motivation or desirability, the Examiner's Answer relies upon impermissible ***hindsight reconstruction*** to arrive at the determination of obviousness.

It is ***impermissible*** simply to engage in a ***hindsight reconstruction*** of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. *In re Gorman*, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

A *piecemeal reconstruction* of prior art elements absent some suggestion of the combination ***does not show obviousness***. *Independent Products Co. v. Tamor Plastics Corp.*, 19 USPQ2d 1314, 1315-16 (Fed. Cir. 1991).

Here, the Examiner's Answer ***fails*** provide any objective evidence sufficient for showing the desirability of the modifying or replacing the features of Gowda and Hamasaki with the features of van Santen.

To imbue one of ordinary skill in the art with knowledge of the invention, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 220 USPQ 303, 312-313 (Fed. Cir. 1983).

The rejection here ***runs afoul*** of a basis mandate inherent in §103 - that a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure shall not be the basis for a holding of obviousness. *In re Kamm and Young*, 172 USPQ 298, 301 (C.C.P.A. 1972).

Thus, the combination of Gowda, van Santen, and Hamasaki ***fails*** to disclose, teach, or suggest a depression type transistor having a source being the floating diffusion and a drain being electrically connected to a vertical selection line.

***Newly added claims***

**iii. Newly added claims 34-36 are dependent upon claim 24.**

Newly added claims 35-36 are dependent upon newly added claim 34.

Claims 34-36 are allowable at least for the reasons provided hereinabove with respect to claim 24 and for the individual features that these claims recite.

***Allowable subject matter***

**iv. No prior art has been properly cited against claim 26.**

In the absence of any proper rejection of claim 26, that claim is deemed to contain allowable subject matter.

***Official Notice, if any***

There is no concession as to the veracity of Official Notice, if taken in any Office Action.

An affidavit or document should be provided in support of any Official Notice taken. 37 C.F.R. §1.104(d)(2), M.P.E.P. §2144.03. See also, *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228 (Bd. Pat. App. & Int. 1989)(failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error).

***Conclusion***

This response is believed to be a complete response to the Office Action.

Applicants reserve the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance.

Accordingly, favorable reexamination and reconsideration of the application in light of the remarks is courteously solicited.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

Dated: August 3, 2011

Respectfully submitted,

By_____

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